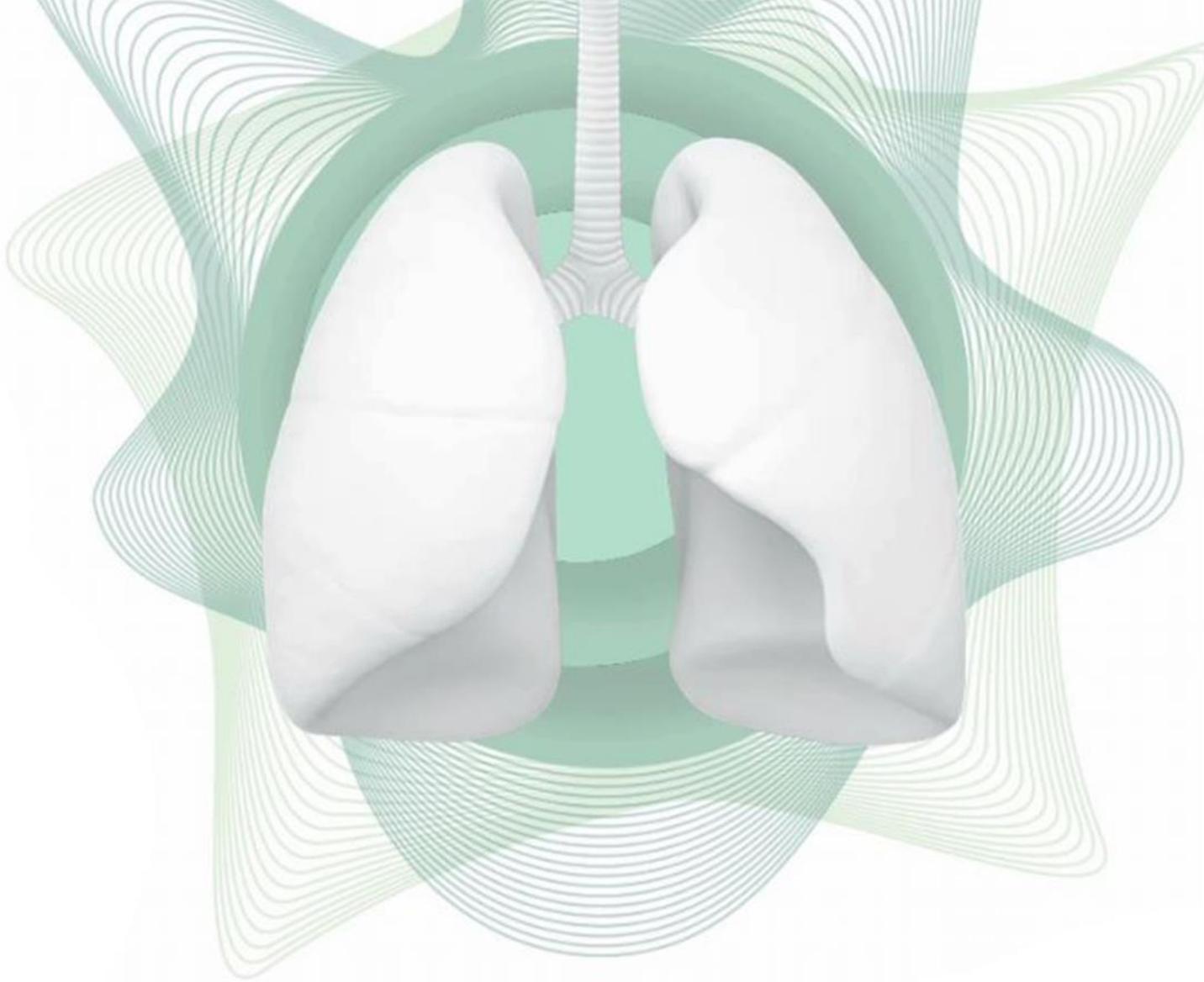




LARK AI Healthcare



Larks are very good mimics of birds' songs and indicate cheerfulness and joy.

LarkAI uses leading edge algorithm and proprietary intelligence to capture detect and accurately report heart and lung sounds of humans leading to early screening and treatment

PURSUING OUR PURPOSE

Making cardiac diagnosis faster and more accessible to the world

- **Our Vision**

Our vision is to be the complete health data company using Ai to predict and detect disease and thereby helping all people live healthy lives

- **Our Mission**

To clock Rs300 Mn in revenue by the year 2025, make healthcare affordable and accessible and screen over 21 Mn people annually with Larkai Devices



**KK would have been alive if
Larkai device was nearby !**

THE HEART OF THE PROBLEM IN INDIA



DELAYED DIAGNOSIS

100+ Mn NCD cases, Most patients discover Diseases post Symptoms Screening is not seen as circular process.



BULKY TESTING DEVICES

70% Villages lack Health Subcenters. Over 8 Lakh Doctors without Portable Solution. 85% of devices are Imported



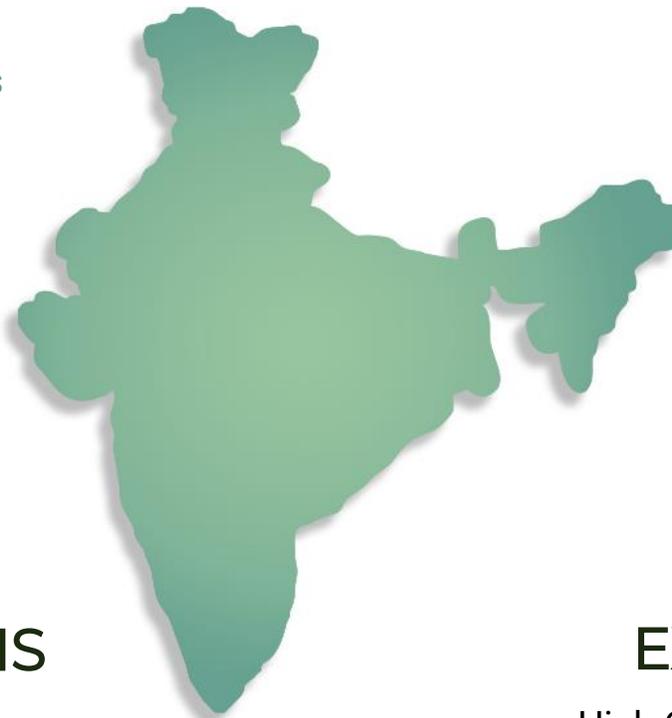
EXPERT & SUBJECTIVE ANALYSIS

It takes 3+ Years to Learn Auscultation efficiently. No Real Time Data, Records or Stores.



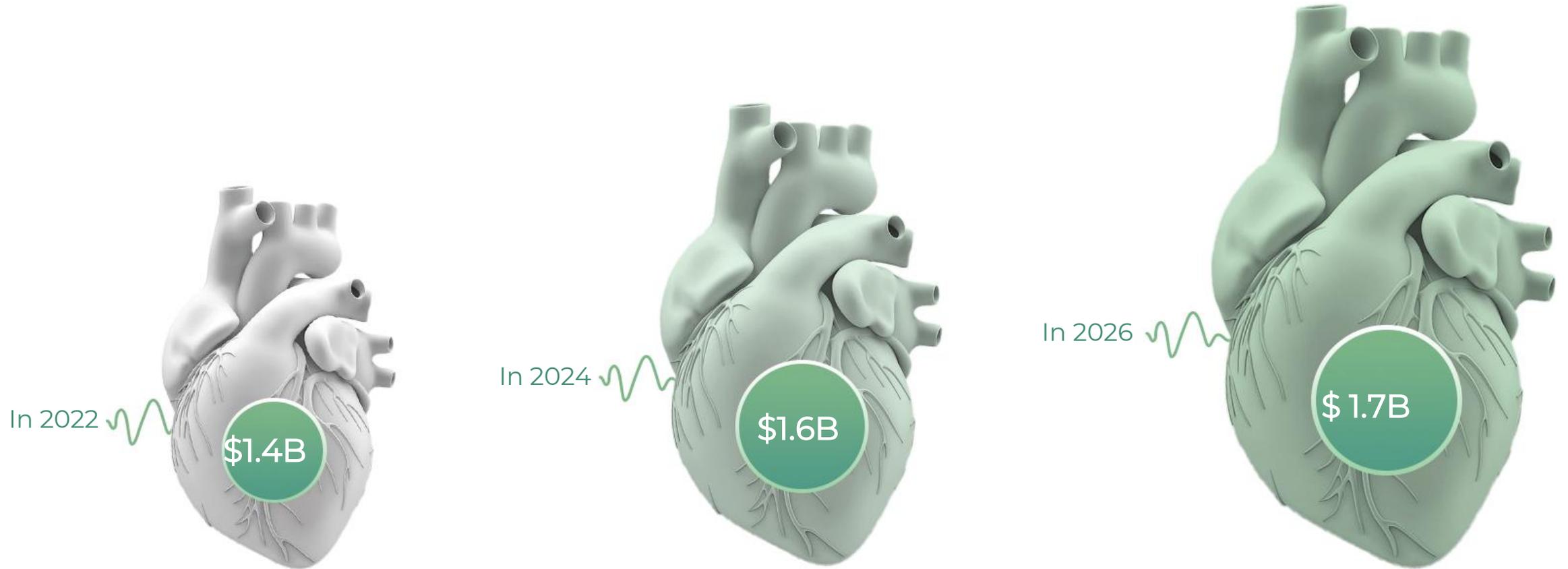
EXORBITANT COSTS

High Cost leads to ignorance to Test till condition worsen, Travel Cost burden due to lack of access.



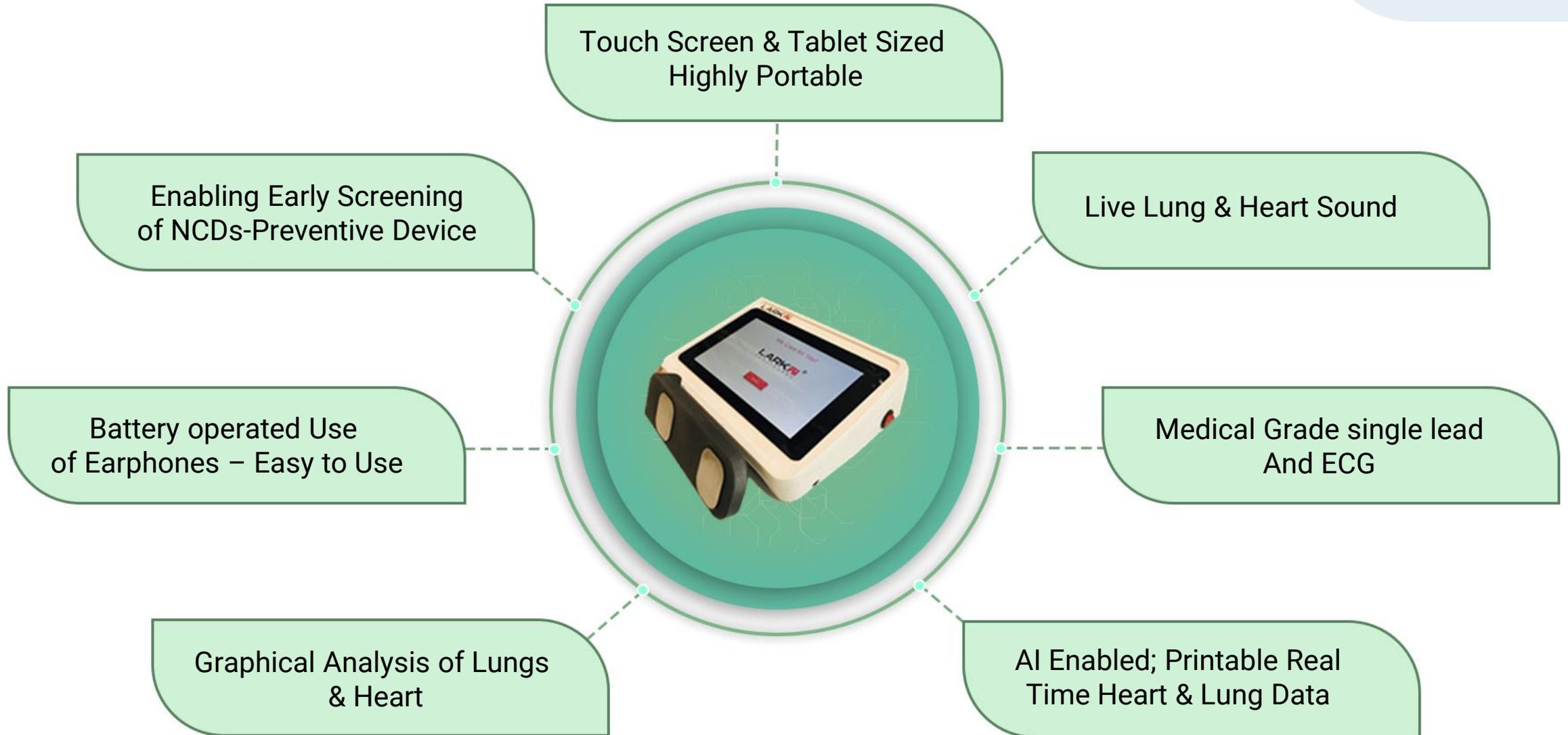
Addressable Market

In 2022 the TAM for CVD device* was \$1400 Mn and expected to reach \$1700Mn by 2026



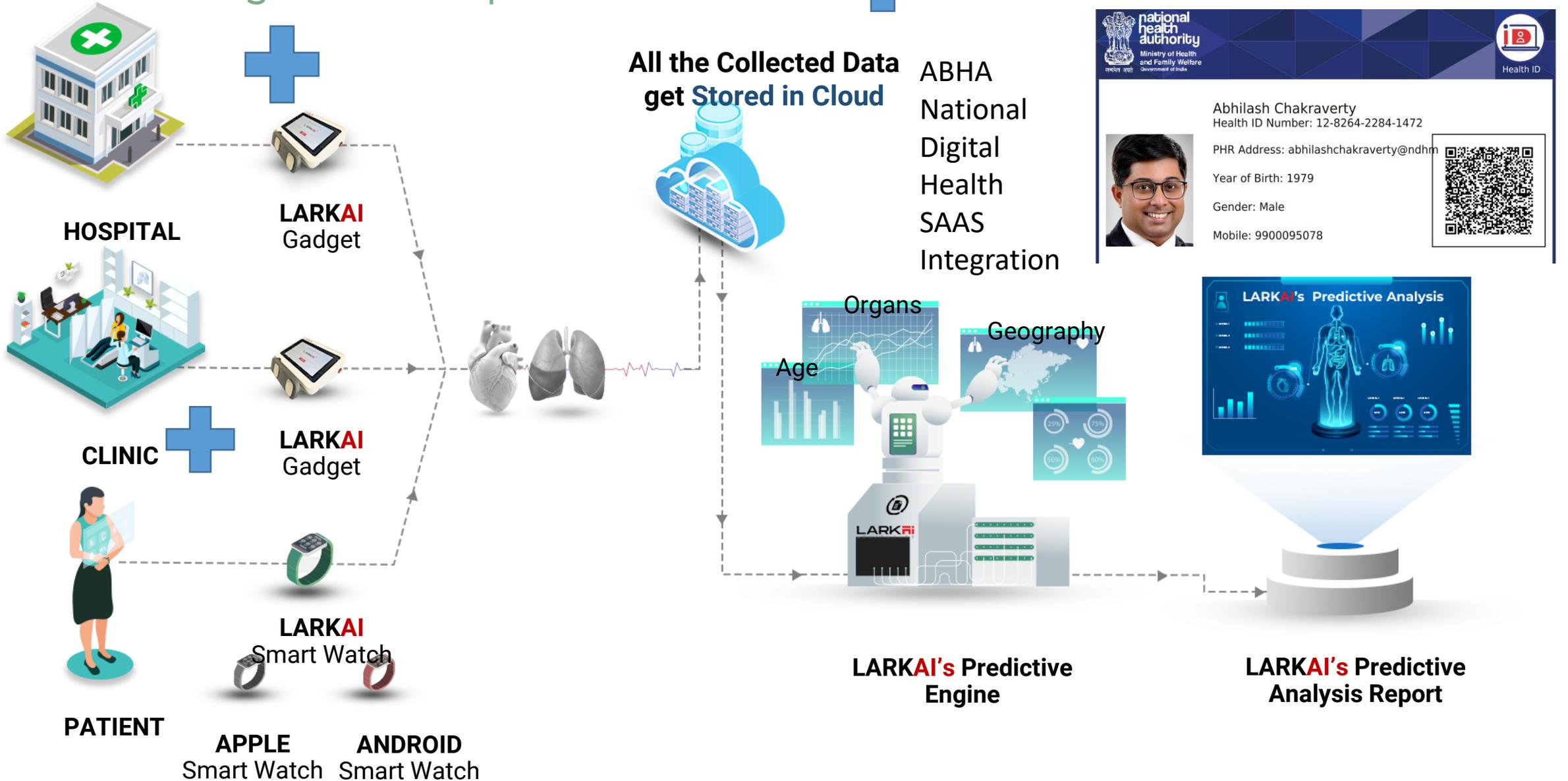
Growth 7% CAGR

OUR FIRST PRODUCT



Our Business Model

Prioritised segments - Hospital and Clinics



Clinical and Regulatory Validation

CLINICAL TRIAL



10000+



512



Yenepoya
Technology
Incubator

5000+

intellectual property

Patent Filed

1

Publications

2

REGULATIONS



CDSCO
Central Drugs Standard
Control Organization

ACCURACY

99.02%

ML ENGINE & PUBLICATION

International Journal of Science and Research (IJSR)
ISSN: 2319-7064
SJIF (2022): 7.942

Detection of Arrhythmia and Auscultation Assistance through Screening Device': A Clinical Study by Larkai Healthcare Pvt. Ltd.

Pritam Dhalla

Founder, Larkai Healthcare Pvt. Ltd.

Abstract: Larkai Healthcare Pvt. Ltd. (hereinafter referred to as 'the Company') is an Eastern-India-based start-up Company established on the 1st day of January 2020. Larkai adheres to the traditional business model which aims to accomplish the benchmark in the biomedical instrumentation market of India ensuring affordable healthcare facilities. The Company's efforts to provide innovative and high-quality cardiac diagnostic/ monitoring products that are accurate and convenient to operate. The Company's pivotal and crucially developed product i.e., the 'Heart and Lungs Screening Device' is created with the fundament of detecting ailments relating to the human organs, heart and lungs. To specify, the said device can well detect heart arrhythmias such as Tachycardia and Bradycardia. For visualization of the findings, the device depicts a realtime graph of heart and lungs auscultation along with amplified and noise-reduced sound. To brief a little on the mechanism of the Company's 'Heart and Lungs screening device', the said device is structured as a stainless-steel electrode. The unique software designed in the device analyses the BPM data collected by such electrode thereby identifying episodes of abnormal heartbeats suggestive of Arrhythmia. The device is developed to generate an electrocardiogram (ECG) waveform similar to a single-lead electrocardiogram, which provides a classification of the waveform as sinus rhythm (SR) that may either be high rate or low heart rate or may even be inconclusive in appearance. The present paper aims to provide a detailed analysis and understanding of the aptitudes of said features along with elucidation of testing and validation.

Table 1: Data of TN, TP, FN, and FP

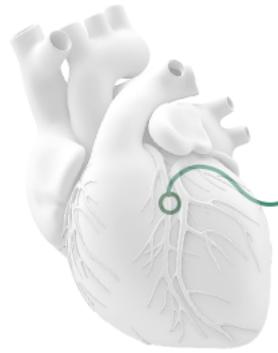
Parameter	Value
TN	417
TP	90
FN	2
FP	3

The results in lieu of considered parameters are represented hereunder:

Table 2: Accuracy, Sensitivity, and Specificity Results

Parameter	Value
Sensitivity	90/92 (97.8%)
Specificity	417/420 (99.2%)
Accuracy	507/512 (99.02%)

LARKAI PRODUCT INNOVATION ROADMAP **LARKAI** HEALTHCARE



We Are Here Today



2022

2023

2024

Strategic level

Features

Market Traction

Disruptive Value Proposition

Complete Heart and Lung

Current Product

Platform:
New HW and UI
7": Touch UI/LAN/WLAN
Slave Display
USB Data Export

Parameters
ECG/PCG

Connectivity
Wifi

TCO

COO
India, Bangalore

New Product Introduction – NPI

Platform:
New Hardware
Workflow Improvements

Parameters, Algorithms
ECG + PCG
Spirometry

Connectivity
Network Capability (Printing, EMR)

Training and
CDS and Early warning Score

TCO & Service
25% lower cost

Platform:
New Hardware

Parameters, Algorithms
Spirometry NMT,
12 SL ST Analysis;
Full arrhythmia

Connectivity
Bed to Bed (network)

Product Cost
100\$

Global Expansion

New Parameters, Algorithms
Multiparameter, OxyRG
Lung Function

Connectivity
Bed to Bed (network)

Product Cost
\$100

LARKAI Global Expansion ROADMAP



Target Customer personas

Africa and ASEAN are channel partner lead markets Middle East is a Clinician/ Biomed driven Market

3 key personas



1 Biomed usually do the first trial and recommend the device



2 Doctors / Physicians are key influencers driving the purchase needs and usability in their own clinic.



3 Purchase Officer: Takes the recommendation from the clinician and negotiates for purchase on behalf of the diagnostic centre / Hospital

Value proposition

Larkai is a simple & reliable cardiac screening device that you can trust



THANK YOU



www.larkai.link

- ***Trivia** : Larks are known for their **melodious singing**. They also sing while they are flying, unlike other birds, who only sing when perched. This indicates cheerfulness and reminds us to take care of our health and find joy in our own lives*

CONTACT : +91 99000 95078

Email : abhilash@larkai.in

Annexures

<https://youtu.be/KmUUkMEg83Y>



LARKAI PRODUCT DEMO @ HOME SETUP | LARKAI HEALTHCARE

24 views • 2 days ago

 LARKAI HEALTHCARE

LARKAI PRODUCT DEMO @ HOME SETUP | LARKAI HEALTHCARE #larkaihealthcare #larkai #startup

New

Competitive Analysis



ThoraCare



ECG machine



Portable ECG



Electronic stethoscope



Stethoscope

Screen both Heart and Lungs?	✓	✗	✗	✗	✗	✓
User friendly for all personnel's?	✓	✗	✗	✗	✗	✗
Takes less time?	✓	✗	✓	✓	✓	✓
Cost per test is low?	✓	✗	✗	✗	✗	✓
Supports option for both online and offline test monitoring?	✓	✗	✓	✓	✓	✗
Shows real-time data on device screen?	✓	✓	✓	✗	✗	✗

INDIA REGULATORY APPROVAL RECEIVED - CDSCO CERTIFICATION



Online System for Medical Devices

Home / Dashboards / Non regulatory Devices

Show entries

S.No	File No	Devices (Brand Name)	Certificates
1	Larkal-Khord-OR/M/MD/005872	Early Stage, Non-Invasive Heart and Lung Disease Screening Device(ThoraCare)	View ISO Certificate View Undertaking

 Designed, Developed and Maintained by **CDAC**

CUSTOMER VALIDATION with over 18,000+ customers and Odisha Govt

• KIMS HOSPITAL CLINICAL TRIAL

• MSME GOVT. OF ODISHA SUPPORT

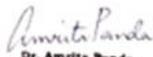
 **INSTITUTIONAL ETHICS COMMITTEE**
KALINGA INSTITUTE OF MEDICAL SCIENCES (KIMS)
KMIT DEEMED TO BE UNIVERSITY, BHUBANESWAR-751024
IEC KIMS has been registered under
CEMO Reg.No. - BCR/31/Inst./08/2013/KN 30
IEM Reg.No. - IC/388/1987/2020/830

Ref. No.: KMIT/ KIMS/ IEC/ 7.26 /2021 Date: 09.09.2021

1. Study Title: - An early stage, non-invasive, heart and lung screening device: A Pilot study.
2. Subject: **Ethics Committee Approval**
3. Name of the Investigator: - **Mr. Pritam Dhalia**, Founder, Director - Larkai Healthcare Pvt. Ltd., KMIT TBH
4. Quorum of the Ethics Committee with Name:
The following members were present:

1. Dr. H. N. Panda	: Chairman
2. Dr. Nagro Kumar Debata,	: Vice Chairman
3. Mr. Jayashanker Mishra, Associate	: Member (Legal Expert)
4. Mr. Sumendra Das	: Member (Lay person)
5. Mr. Dilip Kumar Dwivedy	: Member (HOD Representative)
6. AVM Prof. (Dr.) R. C. Das, Prof. Psychiatry	: Member
7. Dr. Chaitali Pattnayak, Professor, Pharmacology	: Member
8. Dr. Amrita Panda, Asstt. Prof. Anesthesia	: Member Secretary
9. Dr. Alpana Mishra, Asst. Prof. Community Medicine	: Alternate Member Secretary

The Institutional Ethics Committee Meeting for was held on 03.09.2021.
After hearing the deliberations from the Principal Investigator the Institutional Ethics Committee Members are satisfied, there is no conflict of interests in any manner. Investigating team will keep dignity, rights, safety and well-being of participants maintaining high ethics and the investigation Team will keep privacy of the individuals and confidentiality of data and documents of Ethics Committee.
The study is approved in its presented form.
In the event of leaving the Institute of the Principal Investigator the data as well as residual Biological samples if any, will be handed over to another person (Medical Research person) designated by Principal under intimation to Institutional Ethics Committee.
The approval is valid for 3 Years or the duration of the Project whichever is less.
The Investigator may make a written request for renewal/ extension of the validity, along with the submission of annual status report. Any deviation/ violation/ waiver in the protocol must be informed to the IEC. The IEC must be informed immediately in case of any adverse event/ SAE or any change of study procedure/ site/ Investigator. Also, the Investigator needs to submit the Annual Report to the IEC after completion of the study, and publication status, if any.
The IEC reserves the right to review, to suspend and to cancel the Research Project at any time during the trial.


Dr. Amrita Panda
Member Secretary, IEC
Kalinga Institute of Medical sciences
Bhubaneswar-751024

Kushabhadra Campus (KMIT Campus - 5), Patia, Bhubaneswar-751024 Member Secretary
Tel: 9674-2725708/ 2725472 (Ext. - 2017), Fax: 0674 - 2725415 Institutional Ethics Committee
Web site: www.kims.ac.in, email:ethicscommittee.kims@kims.ac.in KIMS, Bhubaneswar

Government of Odisha
MSME Department

No. MSME-S&I-MISC-0069-2019/ 3730 /Bhubaneswar Dt. 2.06.2021

From,
Shri Satyabrata Sahu, IAS
Principal Secretary to Government

To,
The Special Secretary to Govt. (PH), Health& FW Department
The Special Secretary to Govt. (MS), Health& FW Department

Sub: Minutes of Interactive session of Startups in Healthcare and allied sectors held on 08.05.2021-Regarding

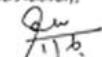
Sir,

I am to forward the minutes of interactive session of Startups in Healthcare and allied sectors held on 08.05.2021 and contact details of the concerned Startups. As per our discussion in the meeting; you are requested to

1. Extend all possible hand holding support to Ezerx Health Tech Pvt Ltd in preparation of road map for the Startup's product development and deployment.
2. To conduct a detailed examination of the products developed by Axum Platforms Private Limited and extend hand holding support in preparation of road map for Startup's product development deployment and testing
3. Extend all necessary support to Indra Lifesciences Pvt Ltd. for implementing and testing their DNA based testing platform various hospitals across Odisha.
4. To conduct a detailed examination of the products developed by Losjovenes Clinilogic Private Limited and extend all possible support for connecting the Startup with HOD, Department of SKIN & VD, S.C.B. Medical College & Hospital, Cutack for testing and technical viability of the product.
5. To conduct a detailed examination of the products developed by Larkai Healthcare Private Limited and extend hand holding support to the Startup for testing their products.
6. Extend support to connect Orborix Labs Private Limited with the existing network of tele-medicine units like 104, e-sarjeevani etc already functional in Odisha.

An early response from your end is highly solicited.

Contact Person for future Correspondence:
Name: Smt. Sarjuktā Badhai
Designation: Evangelist, Startup Odisha
Mobile no: 9178665577

Yours faithfully,

Principal Secretary to Government

Recognition

